



SPEC CPU®2026 Integer Speed Result

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Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant Compute DL325 Gen12
(2.25 GHz, AMD EPYC 9965)

SPECspeed®2026_int_base = 6.75

SPECspeed®2026_int_peak = 6.75

CPU2026 License: 3

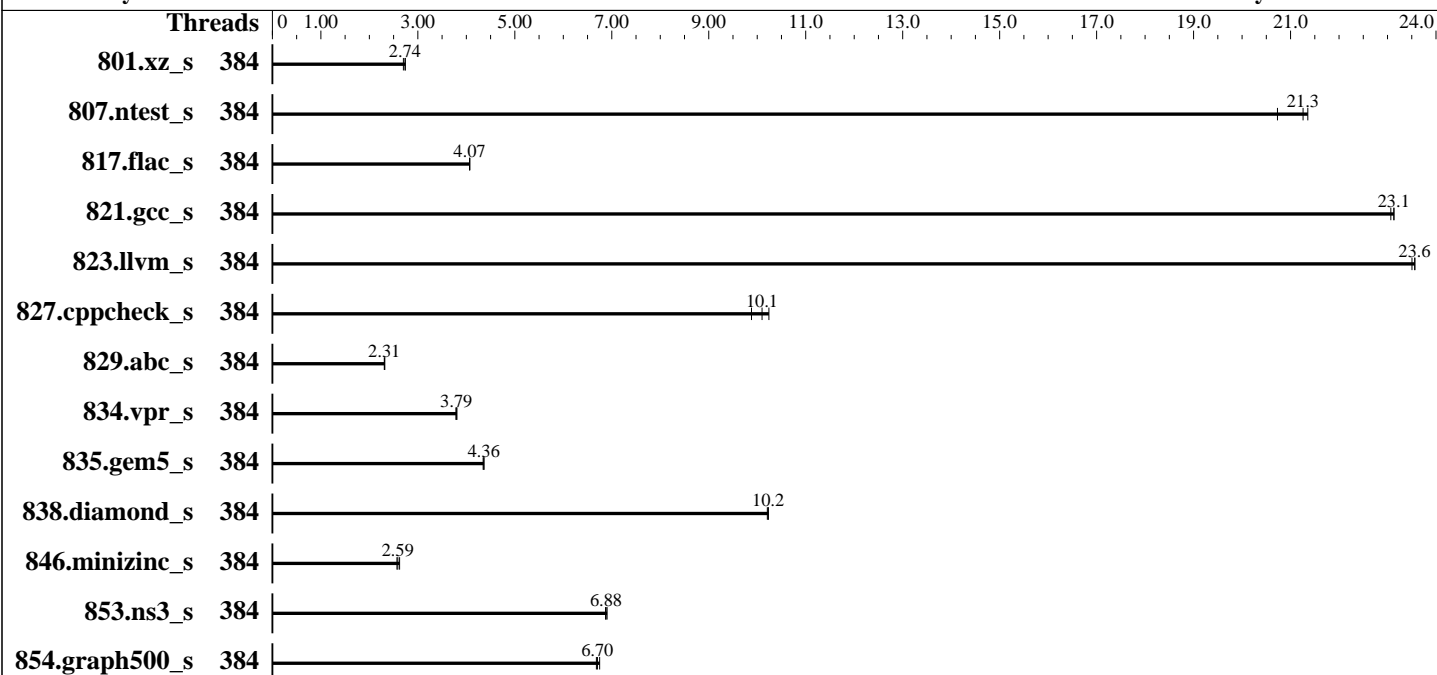
Test Sponsor: HPE

Tested by: HPE

Test Date: Feb-2026

Hardware Availability: Jul-2025

Software Availability: Jan-2026



Hardware

CPU Name: AMD EPYC 9965
 Max MHz: 3700
 Nominal: 2250
 Enabled: 192 cores, 1 chip, 2 threads/core
 Orderable: 1 Chip
 Cache L1: 32 KB I + 48 KB D on chip per core
 L2: 1 MB I+D on chip per core
 L3: 384 MB I+D on chip per chip,
 32 MB shared / 16 cores
 Other: None
 Memory: 1536 GB (12 x 128 GB 2Rx4 PC5-6400B-R,
 running at 5200)
 Storage: 1 x 1.6 TB NVMe SSD
 Cooling: CLC
 Other: None

Software

OS: Ubuntu 24.04.3 LTS
 Kernel 6.8.0-94-generic
 Compiler: C/C++: Version 5.1.0 of AOCC
 Fortran: Flang v22
 Compiler Category: Vendor
 Firmware: HPE BIOS Version v1.34
 released Nov-2025
 File System: ext4
 System State: Run level 5 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 Other: None
 Power Management: BIOS and OS is set to prefer performance at the
 cost of additional power usage



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Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
801.xz_s	384	216	2.74	216	2.74	219	2.70	384	216	2.74	216	2.74	219	2.70
807.ntest_s	384	53.4	21.4	55.0	20.7	53.6	21.3	384	53.4	21.4	55.0	20.7	53.6	21.3
817.flac_s	384	427	4.07	427	4.07	427	4.07	384	427	4.07	427	4.07	427	4.07
821.gcc_s	384	89.5	23.1	89.7	23.1	89.5	23.1	384	89.5	23.1	89.7	23.1	89.5	23.1
823.llvm_s	384	60.0	23.5	59.9	23.6	59.9	23.6	384	60.0	23.5	59.9	23.6	59.9	23.6
827.cppcheck_s	384	109	10.2	111	10.1	113	9.88	384	109	10.2	111	10.1	113	9.88
829.abc_s	384	360	2.31	358	2.32	360	2.31	384	360	2.31	358	2.32	360	2.31
834.vpr_s	384	251	3.79	252	3.79	251	3.81	384	251	3.79	252	3.79	251	3.81
835.gem5_s	384	262	4.35	261	4.36	261	4.36	384	262	4.35	261	4.36	261	4.36
838.diamond_s	384	97.9	10.2	98.1	10.2	97.9	10.2	384	97.9	10.2	98.1	10.2	97.9	10.2
846.minizinc_s	384	259	2.59	261	2.57	255	2.62	384	259	2.59	261	2.57	255	2.62
853.ns3_s	384	168	6.88	168	6.87	167	6.90	384	168	6.88	168	6.87	167	6.90
854.graph500_s	384	90.5	6.75	91.1	6.70	91.4	6.68	384	90.5	6.75	91.1	6.70	91.4	6.68

SPECspeed®2026_int_base = **6.75**

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Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Compiler Notes

The AMD64 AOCC Compiler Suite is available at
<http://developer.amd.com/amd-aocc/>
Flang v22 is available at
<https://flang.llvm.org/>

Submit Notes

The config file option 'submit' was used.
'numactl' was used to bind copies to the cores.
See the configuration file for details.

Operating System Notes

'ulimit -s unlimited' was used to set environment stack size limit
'ulimit -l 2097152' was used to set environment locked pages in memory limit

runcpu command invoked through numactl i.e.:
numactl --interleave=all runcpu <etc>

To limit dirty cache to 8% of memory, 'sysctl -w vm.dirty_ratio=8' run as root.
To limit swap usage to minimum necessary, 'sysctl -w vm.swappiness=1' run as root.
To free node-local memory and avoid remote memory usage,

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Operating System Notes (Continued)

```
'sysctl -w vm.zone_reclaim_mode=1' run as root.
To clear filesystem caches, 'sync; sysctl -w vm.drop_caches=3' run as root.
To disable address space layout randomization (ASLR) to reduce run-to-run
variability, 'sysctl -w kernel.randomize_va_space=0' run as root.
To enable Transparent Hugepages (THP) for all allocations,
'echo always > /sys/kernel/mm/transparent_hugepage/enabled' and
'echo always > /sys/kernel/mm/transparent_hugepage/defrag' run as root.
```

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
GOMP_CPU_AFFINITY = "0-383"
LD_LIBRARY_PATH =
"/home/cpu2026/amd_speed_aocc510_flang22_znver5_A_lib/lib:/home/cpu2026/
amd_speed_aocc510_flang22_znver5_A_lib/lib32:"
MALLOC_CONF = "retain:true"

General Notes

Binaries were compiled on a system with an AMD EPYC 9754 CPU + 768 GiB
Memory using Ubuntu 24.04
NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown)
is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1)
is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2)
is mitigated in the system as tested and documented.

Platform Notes

BIOS Configurations : Parameters are selected in the order shown below
Workload Profile set to General Peak Frequency Compute
Determinism Control set to Manual
Performance Determinism set to Power Deterministic
Memory Patrol Scrubbing set to Disabled
ACPI CST C2 Latency set to 18 microseconds
Last-Level Cache (LLC) as NUMA Node set to Enabled
NUMA memory domains per socket set to Two memory domains per socket
Thermal Configuration set to Maximum Cooling
Workload Profile set to Custom
Power Regulator set to OS Control Mode

Sysinfo program /home/cpu2026/bin/sysinfo

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Platform Notes (Continued)

Rev: 069f95da7e7f5d81b2ce48a82150e54f
running on admin1 Tue Nov 25 18:25:34 2025

SUT (System Under Test) info as seen by some common utilities.

Table of contents

- 1. uname -srvm
- 2. w
- 3. Username
- 4. ulimit -a
- 5. sysinfo process ancestry
- 6. /proc/cpuinfo
- 7. lscpu
- 8. numactl --hardware
- 9. /proc/meminfo
- 10. who -r
- 11. Systemd service manager version: systemd 255 (255.4-lubuntu8.12)
- 12. Services, from systemctl list-unit-files
- 13. Linux kernel boot-time arguments, from /proc/cmdline
- 14. cpupower frequency-info
- 15. tuned-adm active
- 16. sysctl
- 17. /sys/kernel/mm/transparent_hugepage
- 18. /sys/kernel/mm/transparent_hugepage/khugepaged
- 19. OS release
- 20. Disk information
- 21. /sys/devices/virtual/dmi/id
- 22. dmidecode
- 23. BIOS

1. uname -srvm
Linux 6.8.0-94-generic #96-Ubuntu SMP PREEMPT_DYNAMIC Fri Jan 9 20:36:55 UTC 2026 x86_64

2. w
18:25:34 up 9 min, 2 users, load average: 0.07, 0.07, 0.06
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT
admin1 172.16.0.100 18:23 9:03 0.00s 0.02s sshd: admin1 [priv]
admin1 tty1 - 18:22 3:08 0.04s 0.01s -bash

3. Username
From environment variable \$USER: root

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Platform Notes (Continued)

From the command 'logname': admin1

4. ulimit -a

```
time(seconds)          unlimited
file(blocks)           unlimited
data(kbytes)           unlimited
stack(kbytes)          unlimited
coredump(blocks)      0
memory(kbytes)         unlimited
locked memory(kbytes) 2097152
process                6190288
nofiles                1024
vmemory(kbytes)        unlimited
locks                  unlimited
rtprio                 0
```

5. sysinfo process ancestry

```
/sbin/init
sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
sshd: admin1 [priv]
sshd: admin1@pts/0
-bash
sudo ./run_intspeed.py
sudo ./run_intspeed.py
python3 ./run_intspeed.py
/bin/bash ./amd_speed_aocc510_flang22_znver5_A1.sh
runcpu --config amd_speed_aocc510_flang22_znver5_A1.cfg --tune base --reportable --iterations 3 intspeer
runcpu --configfile amd_speed_aocc510_flang22_znver5_A1.cfg --tune base --reportable --iterations 3
--nopower --runmode speed --tune base --size test:train:refspeed intspeer --nopreenv --note-preenv
--logfile $$SPEC/tmp/CPU2026.002/templogs/preenv.intspeer.002.0.log --lognum 002.0 --from_runcpu 2
specperl $$SPEC/bin/sysinfo
$SPEC = /home/cpu2026
```

6. /proc/cpuinfo

```
model name      : AMD EPYC 9965 192-Core Processor
vendor_id      : AuthenticAMD
cpu family     : 26
model          : 17
stepping       : 0
microcode      : 0xb101054
bugs           : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass
TLB size       : 192 4K pages
cpu cores      : 192
siblings       : 384
```

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Platform Notes (Continued)

1 physical ids (chips)
384 processors (hardware threads)
physical id 0: core ids 0-191
physical id 0: apicids 0-383

Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for virtualized systems. Use the above data carefully.

7. lscpu

From lscpu from util-linux 2.39.3:

```

Architecture:                x86_64
CPU op-mode(s):              32-bit, 64-bit
Address sizes:               52 bits physical, 57 bits virtual
Byte Order:                  Little Endian
CPU(s):                      384
On-line CPU(s) list:        0-383
Vendor ID:                   AuthenticAMD
BIOS Vendor ID:             Advanced Micro Devices, Inc.
Model name:                  AMD EPYC 9965 192-Core Processor
BIOS Model name:            AMD EPYC 9965 192-Core Processor      CPU @ 2.2GHz
BIOS CPU family:            107
CPU family:                  26
Model:                       17
Thread(s) per core:         2
Core(s) per socket:         192
Socket(s):                   1
Stepping:                    0
Frequency boost:             enabled
CPU(s) scaling MHz:         100%
CPU max MHz:                 2250.0000
CPU min MHz:                 1500.0000
BogoMIPS:                    4492.97

```

```

Flags:                        fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat
pse36 clflush mmx fxsr sse sse2 ht syscall nx mmxext fxsr_opt pdpe1gb
rdtscp lm constant_tsc rep_good amd_lbr_v2 nopl nonstop_tsc cpuid
extd_apicid aperfmperf rapl pni pclmulqdq monitor ssse3 fma cx16 pcid
sse4_1 sse4_2 x2apic movbe popcnt aes xsave avx f16c rdrand lahf_lm
cmp_legacy svm extapic cr8_legacy abm sse4a misalignsse 3dnowprefetch
osvw ibs skinit wdt tce topoext perfctr_core perfctr_nb bpext
perfctr_llc mwaitx cpb cat_l3 cdp_l3 hw_pstate ssbd mba perfmon_v2
ibrs ibpb stibp ibrs_enhanced vmmcall fsgsbase tsc_adjust bmi1 avx2
smep bmi2 erms invpcid cqm rdt_a avx512f avx512dq rdseed adx smap
avx512ifma clflushopt clwb avx512cd sha_ni avx512bw avx512vl xsaveopt
xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total
cqm_mbm_local user_shstk avx_vnni avx512_bf16 clzero irperf
xsaveerptr rdpru wbnoinvd amd_ppin cppc amd_ibpb_ret arat npt lbrv

```

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Platform Notes (Continued)

```
svm_lock nrip_save tsc_scale vmcb_clean flushbyasid decodeassists
pausefilter pfthreshold avic v_vmsave_vmload vgif x2avic v_spec_ctrl
vnmi avx512vbmi umip pku ospke avx512_vbmi2 gfni vaes vpclmulqdq
avx512_vnni avx512_bitalg avx512_vpopcntdq la57 rdpid bus_lock_detect
movdiri movdir64b overflow_recov succor smca fsrm avx512_vp2intersect
flush_llid debug_swap
```

```
Virtualization: AMD-V
L1d cache: 9 MiB (192 instances)
L1i cache: 6 MiB (192 instances)
L2 cache: 192 MiB (192 instances)
L3 cache: 384 MiB (12 instances)
NUMA node(s): 12
NUMA node0 CPU(s): 0-15,192-207
NUMA node1 CPU(s): 16-31,208-223
NUMA node2 CPU(s): 32-47,224-239
NUMA node3 CPU(s): 48-63,240-255
NUMA node4 CPU(s): 64-79,256-271
NUMA node5 CPU(s): 80-95,272-287
NUMA node6 CPU(s): 96-111,288-303
NUMA node7 CPU(s): 112-127,304-319
NUMA node8 CPU(s): 128-143,320-335
NUMA node9 CPU(s): 144-159,336-351
NUMA node10 CPU(s): 160-175,352-367
NUMA node11 CPU(s): 176-191,368-383
Vulnerability Gather data sampling: Not affected
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf: Not affected
Vulnerability Mds: Not affected
Vulnerability Meltdown: Not affected
Vulnerability Mmio stale data: Not affected
Vulnerability Reg file data sampling: Not affected
Vulnerability Retbleed: Not affected
Vulnerability Spec rstack overflow: Not affected
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl
Vulnerability Spectre v1: Mitigation; usercopy/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Enhanced / Automatic IBRS; IBPB conditional; STIBP
always-on; RSB filling; PBRSE-eIBRS Not affected; BHI Not affected
Vulnerability Srbds: Not affected
Vulnerability Tsx async abort: Not affected
Vulnerability Vmscape: Not affected
```

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	48K	9M	12	Data	1	64	1	64
L1i	32K	6M	8	Instruction	1	64	1	64
L2	1M	192M	16	Unified	2	1024	1	64
L3	32M	384M	16	Unified	3	32768	1	64

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Platform Notes (Continued)

8. numactl --hardware

NOTE: a numactl 'node' might or might not correspond to a physical chip.

available: 12 nodes (0-11)

node 0 cpus: 0-15,192-207

node 0 size: 128633 MB

node 0 free: 127866 MB

node 1 cpus: 16-31,208-223

node 1 size: 128969 MB

node 1 free: 128664 MB

node 2 cpus: 32-47,224-239

node 2 size: 129013 MB

node 2 free: 128762 MB

node 3 cpus: 48-63,240-255

node 3 size: 129013 MB

node 3 free: 128777 MB

node 4 cpus: 64-79,256-271

node 4 size: 129013 MB

node 4 free: 128782 MB

node 5 cpus: 80-95,272-287

node 5 size: 129013 MB

node 5 free: 128778 MB

node 6 cpus: 96-111,288-303

node 6 size: 129013 MB

node 6 free: 128757 MB

node 7 cpus: 112-127,304-319

node 7 size: 129013 MB

node 7 free: 128807 MB

node 8 cpus: 128-143,320-335

node 8 size: 128931 MB

node 8 free: 128647 MB

node 9 cpus: 144-159,336-351

node 9 size: 129013 MB

node 9 free: 128722 MB

node 10 cpus: 160-175,352-367

node 10 size: 129013 MB

node 10 free: 128763 MB

node 11 cpus: 176-191,368-383

node 11 size: 129013 MB

node 11 free: 128453 MB

node distances:

node	0	1	2	3	4	5	6	7	8	9	10	11
0:	10	11	11	11	11	11	12	12	12	12	12	12
1:	11	10	11	11	11	11	12	12	12	12	12	12
2:	11	11	10	11	11	11	12	12	12	12	12	12
3:	11	11	11	10	11	11	12	12	12	12	12	12

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Platform Notes (Continued)

4:	11	11	11	11	10	11	12	12	12	12	12	12
5:	11	11	11	11	11	10	12	12	12	12	12	12
6:	12	12	12	12	12	12	10	11	11	11	11	11
7:	12	12	12	12	12	12	11	10	11	11	11	11
8:	12	12	12	12	12	12	11	11	10	11	11	11
9:	12	12	12	12	12	12	11	11	11	10	11	11
10:	12	12	12	12	12	12	11	11	11	11	10	11
11:	12	12	12	12	12	12	11	11	11	11	11	10

9. /proc/meminfo

MemTotal: 1584795652 kB

10. who -r

run-level 5 Nov 25 18:17

11. Systemd service manager version: systemd 255 (255.4-lubuntu8.12)

Default	Target	Status
graphical		running

12. Services, from systemctl list-unit-files

STATE	UNIT FILES
enabled	ModemManager apparmor apport blk-availability cloud-config cloud-final cloud-init cloud-init-local console-setup cron dmesg e2scrub_reap finalrd getty@ gpu-manager grub-common grub-initrd-fallback keyboard-setup lvm2-monitor multipathd networkd-dispatcher open-iscsi open-vm-tools pollinate rsyslog secureboot-db setvtrgb snapd sysstat systemd-networkd systemd-networkd-wait-online systemd-pstore systemd-resolved thermald tuned ua-reboot-cmds ubuntu-advantage udisks2 ufw unattended-upgrades vgauth
enabled-runtime	netplan-ovs-cleanup systemd-fsck-root systemd-remount-fs
disabled	console-getty debug-shell iscsid nftables rsync serial-getty@ ssh systemd-boot-check-no-failures systemd-confext systemd-network-generator systemd-networkd-wait-online@ systemd-pcrlock-file-system systemd-pcrlock-firmware-code systemd-pcrlock-firmware-config systemd-pcrlock-machine-id systemd-pcrlock-make-policy systemd-pcrlock-secureboot-authority systemd-pcrlock-secureboot-policy systemd-sysextr systemd-time-wait-sync systemd-timesyncd upower
indirect	systemd-sysupdate systemd-sysupdate-reboot uidd
masked	cryptdisks cryptdisks-early hwclock multipath-tools-boot screen-cleanup sudo x11-common

13. Linux kernel boot-time arguments, from /proc/cmdline

BOOT_IMAGE=/boot/vmlinuz-6.8.0-94-generic
root=UUID=55095485-7cab-4cdb-a7f6-908dc16f7253
ro

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Platform Notes (Continued)

14. cpupower frequency-info

analyzing CPU 375:

current policy: frequency should be within 1.50 GHz and 2.25 GHz.

The governor "performance" may decide which speed to use within this range.

boost state support:

Supported: yes

Active: yes

Boost States: 0

Total States: 3

Pstate-P0: 2250MHz

15. tuned-adm active

Current active profile: balanced

16. sysctl

kernel.numa_balancing	1
kernel.randomize_va_space	0
vm.compaction_proactiveness	20
vm.dirty_background_bytes	0
vm.dirty_background_ratio	10
vm.dirty_bytes	0
vm.dirty_expire_centisecs	3000
vm.dirty_ratio	8
vm.dirty_writeback_centisecs	500
vm.dirtytime_expire_seconds	43200
vm.extfrag_threshold	500
vm.min_unmapped_ratio	1
vm.nr_hugepages	0
vm.nr_hugepages_mempolicy	0
vm.nr_overcommit_hugepages	0
vm.swappiness	1
vm.watermark_boost_factor	15000
vm.watermark_scale_factor	10
vm.zone_reclaim_mode	1

17. /sys/kernel/mm/transparent_hugepage

defrag [always] defer defer+madvice madvice never

enabled [always] madvice never

hpage_pmd_size 2097152

shmem_enabled always within_size advise [never] deny force

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Copyright 2026 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant Compute DL325 Gen12
(2.25 GHz, AMD EPYC 9965)

SPECspeed®2026_int_base = 6.75

SPECspeed®2026_int_peak = 6.75

CPU2026 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Feb-2026

Hardware Availability: Jul-2025

Software Availability: Jan-2026

Platform Notes (Continued)

18. /sys/kernel/mm/transparent_hugepage/khugepaged

```
alloc_sleep_millisecs    60000
defrag                    1
max_ptes_none            511
max_ptes_shared          256
max_ptes_swap            64
pages_to_scan            4096
scan_sleep_millisecs     10000
```

19. OS release

```
From /etc/*-release /etc/*-version
os-release Ubuntu 24.04.3 LTS
```

20. Disk information

SPEC is set to: /home/cpu2026

```
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/nvme0n1p2  ext4  1.5T   33G  1.4T   3% /
```

21. /sys/devices/virtual/dmi/id

```
Vendor:          HPE
Product:         HPE ProLiant Compute DL325 Gen12
Product Family:  ProLiant
Serial:          OU2MZL2EWE
```

22. dmidecode

Additional information from dmidecode 3.5 follows. WARNING: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

Memory:

```
4x Samsung M321RAJA0MB2-CCPEC 128 GB 2 rank 6400, configured at 5200
6x Samsung M321RAJA0MB2-CCPKC 128 GB 2 rank 6400, configured at 5200
2x Samsung M321RAJA0MB2-CCPPC 128 GB 2 rank 6400, configured at 5200
```

23. BIOS

(This section combines info from /sys/devices and dmidecode.)

```
BIOS Vendor:      HPE
BIOS Version:     1.34
BIOS Date:        11/28/2025
BIOS Revision:    1.34
```

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Platform Notes (Continued)

Firmware Revision: 1.18

Compiler Version Notes

=====
C | 854.graph500_s(base)

AMD clang version 17.0.6 (CLANG: AOCC_5.1.0-Build#1994 2025_12_23)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/bin

=====
C++ | 807.ntest_s(base) 827.cppcheck_s(base) 853.ns3_s(base)

AMD clang version 17.0.6 (CLANG: AOCC_5.1.0-Build#1994 2025_12_23)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/bin

=====
C++, C | 801.xz_s(base) 817.flac_s(base) 821.gcc_s(base) 823.llvm_s(base)
| 829.abc_s(base) 834.vpr_s(base) 835.gem5_s(base) 838.diamond_s(base)
| 846.minizinc_s(base)

AMD clang version 17.0.6 (CLANG: AOCC_5.1.0-Build#1994 2025_12_23)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/bin

Base Compiler Invocation

C benchmarks:

clang

C++ benchmarks:

clang++

Benchmarks using both C and C++:

clang++ clang



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Base Portability Flags

```
801.xz_s: -DSPEC_LP64
807.ntest_s: -DSPEC_LP64
817.flac_s: -DSPEC_LP64
821.gc_s: -DSPEC_LP64
823.llvm_s: -DSPEC_LP64
827.cppcheck_s: -DSPEC_LP64
829.abc_s: -DSPEC_LP64
834.vpr_s: -fno-finite-math-only -DSPEC_LP64
835.gem5_s: -fno-finite-math-only -DSPEC_LP64
838.diamond_s: -DSPEC_LP64
846.minizinc_s: -DSPEC_LP64
853.ns3_s: -fno-finite-math-only -DSPEC_LP64
854.graph500_s: -DSPEC_LP64
```

Base Optimization Flags

C benchmarks:

```
-m64 -std=c18 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-allow-multiple-definition -Wl,-mllvm -Wl,-extra-inliner -O3 -flto
-march=znver5 -fveclib=AMDLIBM -ffast-math -zopt -fremap-arrays
-fstrip-mining -fstruct-layout=7 -mllvm -inline-threshold=1000
-mllvm -reduce-array-computations=3 -mllvm -unroll-threshold=50
-fopenmp -DSPEC_OPENMP -lamdalloc -lamdlibm -fopenmp=libomp -lomp
```

C++ benchmarks:

```
-m64 -std=c++17 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -O3 -flto -march=znver5
-fveclib=AMDLIBM -ffast-math -zopt -mllvm -unroll-threshold=100
-mllvm -loop-unswitch-threshold=200000
-mllvm -reduce-array-computations=3 -fopenmp -DSPEC_OPENMP
-fvirtual-function-elimination -fvisibility=hidden -lamdalloc
-lamdlibm -fopenmp=libomp -lomp
```

Benchmarks using both C and C++:

```
-m64 -std=c++17 -std=c18 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -O3 -flto -march=znver5
-fveclib=AMDLIBM -ffast-math -zopt -fremap-arrays -fstrip-mining
-fstruct-layout=7 -mllvm -inline-threshold=1000
-mllvm -reduce-array-computations=3 -mllvm -unroll-threshold=50
-mllvm -unroll-threshold=100 -mllvm -loop-unswitch-threshold=200000
-fopenmp -DSPEC_OPENMP -fvirtual-function-elimination
```

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Base Optimization Flags (Continued)

Benchmarks using both C and C++ (continued):

-fvisibility=hidden -lamdalloc -lamdlibm -fopenmp=libomp -lomp

Base Other Flags

C benchmarks:

-Wno-return-type

Benchmarks using both C and C++:

-Wno-return-type

Peak Optimization Flags

C benchmarks:

854.graph500_s: basepeak = yes

C++ benchmarks:

807.ntest_s: basepeak = yes

827.cppcheck_s: basepeak = yes

853.ns3_s: basepeak = yes

Benchmarks using both C and C++:

801.xz_s: basepeak = yes

817.flac_s: basepeak = yes

821.gcc_s: basepeak = yes

823.llvm_s: basepeak = yes

829.abc_s: basepeak = yes

834.vpr_s: basepeak = yes

835.gem5_s: basepeak = yes

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Peak Optimization Flags (Continued)

838.diamond_s: basepeak = yes

846.minizinc_s: basepeak = yes

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2026/results/flags/HPE-Platform-Flags-AMD-Turin-rev1.11.html>

<http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-05-04.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2026/results/flags/HPE-Platform-Flags-AMD-Turin-rev1.11.xml>

<http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-05-04.xml>

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